

JOB SHEET JS2-4-31
CREATING USER FUNCTIONS

PLEASE TURN PAGE TO BEGIN JOB SHEET

JOB SHEET 2-4-31 CREATING USER FUNCTIONS

INTRODUCTION

Many times, viewing a product or set of products in a useful manner requires numerous screen manipulations. This can become exhausting and frustrating during the course of an active weather event. User Functions are procedures which take some of the button pushing burden off of the operator and onto the software of the system, thereby saving some time and effort.

Up to 60 User Functions can be defined, 30 can be invoked from the Graphics Tablet and all 60 are accessible through the Applications Terminal. User Functions are defined to perform many useful actions, such as: examining a storm through several elevation angles, comparing output from several products pertaining to the same storm, and making one time requests, just to name a few.

OBJECTIVE

Create and invoke a User Function which displays Composite Reflectivity(CR), Vertically Integrated Liquid(VIL), Storm Track(STI), and Echo Top(ET) products in a 4-panel display on the left screen.

REFERENCES

NWS EHB 6-531-1, USERS GUIDE: PUP/RPGOP, Section 11.0

PROCEDURE

1. a). From the Main Menu, type **U** and press **RETURN**.
b). The User Function Menu displays. Note in particular two commands:

(W)ait, <seconds> and
(E)nd Define and Examine, (E)nd UF

- These two commands are used while defining User Functions, however, they do not always appear on the Edit Screen. You may want to write them down as you will use them later.
- Note that up to 3600 seconds can be used in the "(W)ait, <seconds>" command. This command temporarily pauses the User Function for the number of seconds entered.

1a

MAIN MENU	
COMMAND: <u>U</u>	
FEEDBACK:	
Enter command and press return. For assistance, press the HELP button (F5).	
(C)ONTROL	
(S)TATUS	
(D)ISPLAY	
(R)OUTINE PRODUCT SET	
(G)EN AND DISTRIBUTE PRODUCTS	
(T)IME LAPSE	
(A)RCHIVE	
<u>(U)SER FUNCTION</u>	
(AD)APTATION DATA	
(M)ONITOR PERFORMANCE	
(H)ELP	
UNACKNOWLEDGED ALERTS	ALPHA PRODUCT QUEUE INDICATOR
ACKNOWLEDGED ALERTS	RPG PRODUCT REQUEST STATUS
SYSTEM STATUS	

1b

<u>USER FUNCTION MENU</u>	
COMMAND: <u>U</u> ,	
FEEDBACK:	
Enter command.	
(E)XECUTE, <UF#>, <rpg>	
(C)ANCEL EXECUTION	
(D)EFINE, <UF#>, <title>	
(<u>EN</u>)D DEFINE AND EXAMINE *,	(<u>E</u>)ND UF
	<UF#>, [User Function # to receive control]
(<u>W</u>)AIT, < <u>SECONDS</u> >	
(EXA)MINE,	(T)ITLES
	<UF#> * [Examine and edit]
<p>*Note: Edit commands are available when the User Function Examine screen is displayed.</p>	

2. Type D,1,FOUR PANEL ALGORITHM.
 - Option D to create (define) a new User Function.
 - Use 1 for the <User Function number>. Valid User Function numbers are 1 through 60, although only 1 through 30 are activated by the Graphic Tablet. All 60 can be invoked through the Applications Terminal.
 - The <title>, in this case FOUR PANEL ALGORITHM, can be up to 50 characters in length. Titles may be more than one word, but since spaces are not recognized, you must use hyphens or underscores to separate the words. The User Function title should convey enough information, about that User Function, to tell the operator what to expect.
3. Press **RETURN**.
 - The feedback line reads "Begin UF 1 Definition".

***CAUTION!!**

- At this point, any manipulation performed either at the Applications Terminal or on the Graphic Tablet are included as a step in this User Function. This means someone else cannot operate the Graphic Tablet while you are creating a User Function without all of his/her commands becoming part of your User Function!
- "U" remains on the command line. Any command from the (U)ser Function Menu (such as the "wait" command) must be preceded by a "U". At times you want commands from other menus to be part of your User Function. In those cases, the "U" must be replaced with the letter corresponding to the menu you are accessing..
- The puck button or screen you select, while defining the User Function, is very important. These choices pre-determine which screen the products display on when the User Function is later executed.
- Since this display will be on the LEFT screen, use only the LEFT puck button.

2

USER FUNCTION MENU

COMMAND: U,D,1,FOUR PANEL ALGORITHM

FEEDBACK:

Enter command.

(E)XECUTE, <UF#>,<rng>
 (C)ANCEL EXECUTION
(D)EFINE, <UF#>, <title>
 (E)ND DEFINE AND EXAMINE *, (E)ND UF
 <UF#>, [User Function # to receive control]
 (W)AIT, <SECONDS>
 (E)XAMINE, (T)ITLES
 <UF#> * [Examine and edit]

*Note: Edit commands are available when the User Function Examine screen is displayed.

3

USER FUNCTION MENU

COMMAND: U,

FEEDBACK: BEGIN UF 1 DEFINITION

Enter command.

(E)XECUTE, <UF#>,<rng>
 (C)ANCEL EXECUTION
 (D)EFINE, <UF#>, <title>
 (E)ND DEFINE AND EXAMINE *, (E)ND UF
 <UF#>, [User Function # to receive control]
 (W)AIT, <SECONDS>
 (E)XAMINE, (T)ITLES
 <UF#> * [Examine and edit]

*Note: Edit commands are available when the User Function Examine screen is displayed.

4. Select QUAD 1 (LEFT button at the Graphic Tablet)
 - This puts the left screen in 4 quadrants once the User Function is invoked. Nothing happens now.
 - **NOTE** - You can tell that your entry has been accepted by looking at the "Feedback" line which reads "Quadrant 1/Cmnd 1". The actual list of commands comprising your User Function definition will not show up until you end your definition (see step 12).
5. Select Composite Reflectivity (COMP REF with the LEFT button).
 - This places this product in quadrant 1, and becomes the next line of your User Function.
6. Select QUAD 2. (LEFT button)
7. Select Vertically Integrated Liquid (VIL with the LEFT button).
 - The VIL product goes into quadrant 2.
8. Select QUAD 3 (LEFT button).
9. Select Storm Track Product (STI with the LEFT button).
 - The STI product goes into quadrant 3.
10. Select QUAD 4 (LEFT button).
11. Select Echo Tops (ET with the LEFT button).
 - The ET product will go into quadrant 4.
12. Type EN,E at the Applications Terminal, (following the "U" on the command line) and press **RETURN**.
 - This stands for (EN)d, Define and Examine, (E)nd UF. (Recall this command is listed on the User Function Menu.)
 - Your User Function is complete and the entire definition is displayed. If you notice any errors or want to make changes, you may edit the User Function now. You may also invoke the User Function (select UF1 at the Graphic Tablet), or move on to something else by exiting this menu.

GRAPHIC TABLET

EDIT COMMANDS

PARAMETERS

KEYBOARD

SYMBOLS

USER FUNCTIONS

DISPLAY FUNCTIONS

PRODUCT OVERLAYS

4,6,8,10

5 7 11 9

PARAMETERS

PRODUCTS

BACKGROUND MAPS

EXAMINE/EDIT USER FUNCTION 1: FOUR_PANEL_ALGORITHM

page 1 of 1

COMMAND: U,

FEEDBACK: UF 1 DEFINITION COMPLETE

EDIT CMDS: [EACH EDIT CMD MUST BE PRECEDED BY '(U)SER FUNCTION',]
 (DEL)ETE,<LINE#> (R)EPLACE END, [(E)ND OR <UF#>]
 (I)NSERT,<LINE#> (REN)AME UF TITLE,<NEW TITLE>

12

- QUADRANT 1 L
- COMPOSITE REFLECTIVITY L L
- QUADRANT 2 L
- VERTICALLY INTEGRATED LIQUID L
- QUADRANT 3 L
- STORM TRACK (Product) L
- QUADRANT 4 L
- ECHO TOPS L
- U,EN,E

TO EDIT A COMPLETED USER FUNCTION:

13. Select **F2** to return to the User Function Menu.
14. Type **EXA,1** next to the "U" and press **RETURN**.
 - Feedback reads "Executed - U,EXA,1". This displays UF 1 and allows you to make any changes.

Replace the Composite Reflectivity product in quadrant 1 with a Storm Total Precipitation product:

15. Type **DEL,2** and press **RETURN**.
 - Feedback reads "Deletion Completed." Line 2 is deleted and the list is subsequently renumbered from there down.
16. Type **I,1** and press **RETURN**.
 - Feedback reads "**Select New Command or Function to Insert After 1**". Inserting at the start of a User Function would require you to "insert after line 0 (I,0)".
17. At the Graphic Tablet, select **STORM TOTAL PRECIP (STP)** with the LEFT puck button.
 - This command inserts the STP as step 2 and renumbers the rest of the list. Terminate the edit session by merely ceasing to edit.
 - The other edit commands, not used in this job sheet, are as follows:
 - U,REN,NAME** - used to rename an existing User Function. "NAME" is the new title.
 - U,R,(E/UF#)** - allows you to replace the END command with a command which "chains" this User Function to another, and vice versa. More about that in JS2-4-33.

14

USER FUNCTION MENU

COMMAND: U,EXA,1
 FEEDBACK:

Enter command.

(E)XECUTE, <UF#>,<rpg>
 (C)ANCEL EXECUTION
 (D)EFINE, <UF#>, <title>
 (EN)D DEFINE AND EXAMINE *, (E)ND UF
 <UF#>, [User Function # to receive control]
 (W)AIT, <SECONDS>
(EXA)MINE, (T)ITLES
<UF#> * [Examine and edit]

*Note: Edit commands are available when the User Function Examine screen is displayed.

15,
16

EXAMINE/EDIT USER FUNCTION 1: FOUR_PANEL_ALGORITHM page 1 of 1

COMMAND: U,
 FEEDBACK:

EDIT CMDS: [EACH EDIT CMD MUST BE PRECEDED BY '(U)SER FUNCTION']
(DEL)ETE,<LINE#> (R)EPLACE END, [(E)ND OR <UF#>]
(I)NSERT,<LINE#> (REN)AME UF TITLE,<NEW TITLE>

1.	QUADRANT 1	L
2.	COMPOSITE REFLECTIVITY	L
3.	QUADRANT 2	L
4.	VERTICALLY INTEGRATED LIQUID	L
5.	QUADRANT 3	L
6.	STORM TRACK (Product)	L
7.	QUADRANT 4	L
8.	ECHO TOPS	L
9.	U,EN,E	

17

EXAMINE/EDIT USER FUNCTION 1: FOUR_PANEL_ALGORITHM page 1 of 1

COMMAND: U,
 FEEDBACK: INSERTION COMPLETED

EDIT CMDS: [EACH EDIT CMD MUST BE PRECEDED BY '(U)SER FUNCTION']
 (DEL)ETE,<LINE#> (R)EPLACE END, [(E)ND OR <UF#>]
 (I)NSERT,<LINE#> (REN)AME UF TITLE,<NEW TITLE>

1.	QUADRANT 1	L
<u>2.</u>	<u>STORM TOTAL PRECIPITATION</u>	<u>L</u>
3.	QUADRANT 2	L
4.	VERTICALLY INTEGRATED LIQUID	L
5.	QUADRANT 3	L
6.	STORM TRACK (Product)	L
7.	QUADRANT 4	L
8.	ECHO TOPS	L
9.	U,EN,E	

There are 2 ways to invoke a User Function:**AT THE GRAPHIC TABLET:**

18. Select UF1 (either button).

***NOTE THAT:**

- You may press either button to activate the User Function, however it only runs on the screen specified in the definition, in this case the left screen, regardless of which button you push.
- Once a User Function has run, it is done unless it was designed to create a loop. In the latter case, either the Graphic Tablet box labeled CANCEL UF, or the User Function Menu command U,C for (C)ancel Execution is used. The operator may choose to cancel a User Function at any time, however, this action only cancels the reading of further commands. Any commands already read will still be carried out.

AT THE APPLICATIONS TERMINAL:

19. Press F2 (Function Key 2).

- This returns you to the Previous Menu (which in this case the User Function Menu).

20. Type E,1; (after the "U") and press **RETURN**.

- This command (E)xecutes <UF#1>.
- The (**E**)xecute, <UF#>, <rpg> line is designed to help ease the creation, execution, and number of User Functions. If the User Function is not defined via the Display Menu using an asterisk (*) in the "RPG" column, the <rpg> section of this command has no effect on the running of the User Function (see JS2-4-35). Therefore, executing the User Function by selecting UF1 at the Graphic Tablet or by typing U,E,1; at the Applications Terminal all have the same effect.

END

GRAPHIC TABLE

EDIT COMMANDS

PARAMETERS

KEYBOARD

SYMBOLS

USER FUNCTIONS

EDIT ANNOT	EDIT ALERT AREA	DELETE ALERT BOX	ADD ALERT BOX	DEL RCTL	ADD RCTL	EDIT ECM PART A	EDIT ECM PART C	57 25	58 26	59 27	60 28	61 29	62 30	63 31	64 32	26	27	28	29	30							
EDIT MAP	HIGH DETAIL	1	2	3	4	5	6	7	8	9	0	*	()	+	BACK SPACE	51 19	52 20	53 21	54 22	55 23	56 24	21	22	23	24	25
START ERASE	END ERASE	Q	W	E	R	T	Y	U	I	O	P	-	RET	45 13	46 14	47 15	48 16	49 17	50 18	16	17	18	19	20			
START LINE	END LINE	A	S	D	F	G	H	J	K	L	:	*	UPPER SHIFT	39 7	40 8	41 9	42 10	43 11	44 12	11	12	13	14	15			
CANCEL EDIT	EXIT EDIT & SAVE	Z	X	C	V	B	N	M	<	>	?	SPACE	LOWER SHIFT	33 1	34 2	35 3	36 37	38	39	40	41	42	43	44	45		
AZIMUTH SELECT																											
CROSS SECTION SELECT																											
RPG																											
TIME																											
DATE																											
REPEAT COUNT																											
END HOUR																											
SLICE/ DURATION																											
CENTER AZIMUTH																											
CENTER RANGE																											
STORM DIRECTION																											
STORM SPEED																											
CONTOUR INTERVAL																											
ALL/DONE SWA																											
WATCH PARAMETERS																											
DEFAULT MAPS																											
ELEVATION UP	LOW PRIORITY	DISPLAY PRODUCT	BASE REF	COMP REF	COMP REF	ECHO TOPS	REF CROSS SECTION	ACK PRODUCT	DISPLAY QUEUED PRODUCT	PRODUCT OFF/ON	MAPS OFF/ON	MAPS ERASE	MAPS FORM/BACKGD	CANCEL HELP													
ELEVATION DOWN	REQUEST MAPS		BASE REF	COMP REF	COMP REF	ECHO TOPS	REF CROSS SECTION	ACK PRODUCT	DISPLAY QUEUED PRODUCT	PRODUCT OFF/ON	MAPS OFF/ON	MAPS ERASE	MAPS FORM/BACKGD	CANCEL HELP													
LOWEST ELEVATION	BLANK TIME DATE	SEND RPG REQ	BASE VEL	STM REL VEL REGION	STM REL VEL REGION	ECHO TOPS	VEL CROSS SECTION	PRODUCT BACK	PRODUCT FORWARD	TRANSFER SCREEN PRODUCT	STATE LANT	COUNTY	HIGHWAY	RADAR SITES													
DEO ASSOC RPG	.13 NM	8 LEVEL	BASE SPECTRUM WIDTH	COMBINED SHEAR	COMBINED SHEAR	COMBINED SHEAR	SPECTRUM WIDTH CROSS SECTION	HEXRAD UNIT STATUS	CLEAR QUEUE	REDISPLAY LANT PRODUCT	RIVER	RIVER BASIN	RDA	RANGE RING													
DIAL-UP ASSOC RPG	27 NM	16 LEVEL	ONE HOUR PRECIP	THREE HOUR PRECIP	STORM TOTAL PRECIP	USER SELECTABLE PRECIP	STORM TRACK	TORNADO VORTICES SIGNATURE	RADAR CODED MESSAGE	ALL SWA PRODUCTS	WARNING AREA	MIL OPN AREA	POLAR GRID	LFW GRID													
RPG 1	.54 NM	HIGH ALT	MESO	SEVERE WEATHER PROBABILITY	WEAK ECHO REGION	VERTICALLY INTEGRATED REGION	VELOCITY AZIMUTH	HAIL	SWA REF	SWA VEL/SRR	RSTRCTD AREA	PRHSTD AREA	AIRWAY HIGH	CITY													
RPG 2	1.1 NM	MID ALT	LAYER COMP REF MAX	LAYER COMP REF MAX	LAYER COMP REF MAX	LAYER COMP REF MAX	VAD WIND PROFILE	VAD	SWA SPECTRUM WIDTH	SWA SHEAR	NAVAID	AIRPORT	AIRWAY LOW	COUNTY NAMES													
RPG 3	2.1 NM	LOW ALT																									

PARAMETERS

PRODUCTS

BACKGROUND MAPS

DISPLAY FUNCTIONS PRODUCT OVERLAYS

USER FUNCTION MENU

COMMAND: U.E.1:

FEEDBACK:

Enter command.

(E)XECUTE, <UF#>, <rpg>

(C)ANCEL EXECUTION

(D)EFINE, <UF#>, <title>

(EN)D DEFINE AND EXAMINE *

(E)ND UF

<UF#>, [User Function # to receive control]

(W)AIT, <SECONDS>

(EXA)MINE,

(T)ITLES

<UF#> * [Examine and edit]

*Note:

Edit commands are available when the User Function Examine screen is displayed.